

## Abstract

The invention relates to a method for in vitro production of bone tissue, comprising the steps of:

- (a) applying undifferentiated mammalian cells, in particular autologous marrow cells, on a substrate:
- (b) directly contacting said cells with a culture medium for a sufficient time to produce a continuous matrix:
- (c) removing the substrate with the matrix from the culture medium.

The produced matrix can be used for joint prostheses, maxillofacial implants, special surgery devices, or bone fillers. The contacted culture medium can also be used for the production of active factors such as growth factors.